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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,026

07/11/2003

Seung-Woo Lee

AB-1608 US

2713

32605 7590 05/18/2007
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EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

05/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/617,026

Applicant(s)

LEE ET AL.

Examiner

Seokyun Moon

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. The Applicants' arguments filed on February 27, 2007, with respect to the rejections of claims 1 and 15 have been fully considered and are persuasive. Accordingly, the rejections of claims 1 and 15 have been withdrawn.

Claim Objections

2. **Claim 1** is objected to because of the following informalities:

Line 8: "*a gate driver sequentially scanning the gate lines by, applying the gate voltage,*".

The comma will be omitted for further examination purpose.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1-11 and 15-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to **claim 1**, the claim [lines 11 and 12] discloses "... *a master driver sequentially applying to the data line data voltages selected from the gray voltages corresponding to the image data ...*". However, Examiner respectfully submits that the specification of the Application

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discloses only a single data voltage being applied to one of the plurality of the data lines sequentially. Appropriate correction is required.

As to **claim 15**, the claim discloses "... *a slave data driver storing the first data voltages in the first period and ...*". However, Examiner respectfully submits that the specification of the Application discloses only a single first data voltage being stored in the first period. Appropriate correction is required.

As to **claims 2-11** and **16-19** are rejected as being dependent upon rejected base claims.

5. **Claims 12-14** and **15-19** are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling.

As to **claims 12** and **15**, Applying the stored first data voltages to the data line during a first sub-period of the scanning of the second gate line and applying a second voltage to the data line during a second sub-period of the scanning of the second gate line, which are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). On the contrary to the main aspect of the invention disclosed in the specification, the claims disclose that applying the stored first data voltage during the scanning of the second gate line and applying a second data voltage during the scanning of the second gate line. Since the specification of the Application does not disclose neither applying the first data voltage during the entire period of the scanning of the second gate line nor applying the second data voltage during the entire period of the scanning of the second gate line, the claimed subject matter is not consistent with the main aspect of the invention disclosed in the specification of the Application.

Appropriate correction is required.

As to **claims 13-14** and **16-19** are rejected as being dependent upon rejected base claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okumura et al. (US 5,945,972) teaches a driving method of a liquid crystal display comprising storing a first data voltage applied to a first pixel connected to a data line during a first addressing period and applying the stored first data voltage to a second pixel adjacent to the first pixel during a first scanning period.

Yoneda et al. (US 5,581,273) teaches a driving method of a liquid crystal display comprising storing a first data voltage applied to a pixel connected to a data line during a first scanning period and applying the stored first data voltage to a second pixel connected to the data line and which is adjacent to the first pixel through a auxiliary wire.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

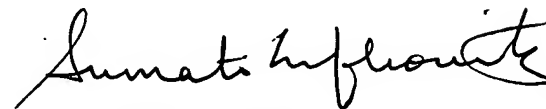
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (572) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 09, 2007

- s.m.

A handwritten signature in black ink, appearing to read "Sumati Lefkowitz", with a stylized flourish at the end.

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER